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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,422	07/31/2000	Lawrence G. Anderson	1269P14	4427

24959 7590 10/03/2002

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EXAMINER	
PAULRAJ, CHRISTOPHER	
ART UNIT	**PAPER NUMBER**
1773	8

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/629,422	ANDERSON ET AL.	
	Examiner	Art Unit	
	Christopher G. Paulraj	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-87 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-87 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. The Restriction Requirement requested in a telephone conversation with Mark Sweet on August 21, 2002 has been reconsidered and is hereby withdrawn. An action on the merits of all pending claims, claims 1-87, follows.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-87 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1-3, 14-15, 18, 21, 36, 62, and 76 recite an alternative limitation using improper Markush group terminology. Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, is recited as "wherein R is a material selected from the group consisting of A, B, C and D." See Ex parte Markush, 1925 C.D. 126 (Comm'r Pat. 1925). It is improper to use the term "comprising" instead of "consisting of." Ex parte Dotter, 12 USPQ 382 (Bd. App. 1931). Another acceptable form is recited as "wherein R is A, B, C or D." See MPEP 2173.05(h). Each of the claims listed above recite one or more groups using improper Markush group terminology. The language used to recite the groups in claims 10-11 is proper and should be followed for the other recitations.

4. Claim 12 recites the limitation "polysiloxane". There is insufficient antecedent basis for this limitation in the claim because the parent claim 11 does not recite a polysiloxane among the possible "second materials."

5. Claim 37 recites a "50:50 blend" of 2 photoinitiators. However, the claims do not specify what this ratio is based on (weight, molar, etc.) and are therefore indefinite.

6. Claims 47, 58, and 68 each recite a method which comprises the step of exposing the coating composition to (1) ionizing or actinic radiation and (2) thermal energy. However and the claims do not clearly indicate whether the claimed method requires the exposure to (1) before (2) and are therefore rendered indefinite.

7. Claims 59-61 and 73-75 recite preambles that are indefinite because they each fail to set forth the specific process steps required to achieve the desired effect (other than simply reciting that the coating is formed over at least a portion of the substrate.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 6-11, 18-19, 33-36, 40-49, and 54-87 are rejected under 35 U.S.C. 102(b) as being anticipated by Maag et al. (WO98/40170). U.S. Patent 6,333,077 is used to serve as an English translation. All column and line numbers refer to the U.S. Patent.

10. Maag et al. discloses a coating composition comprising 50-98 wt. % of a system A) thermally curable by addition and/or condensation reactions and 2-50 wt. % of a system B) which is curable under the action of high-energy radiation by free-radical polymerization of olefinic double bonds (abstract). The system A) can also include polyisocyanates, in free or blocked form, as crosslinking agents for the hydroxy-functional binders (col. 6, lines 40-42). The composition can also include transparent pigments or extenders (considered to be equivalent to the claimed particles (d)). The system B) can include (meth)acrylic functional copolymers including polyester (meth)acrylates (col. 8, lines 6-15). The system B) can be cured using UV or electron-beam radiation. The composition can also include a photoinitiator in the system B), which can be benzophenone (col. 8, lines 36-50). The composition can also include other additive such a leveling agent - considered to meet the requirements of a surface active agent recited in claims 33-34 (col. 9, line 1). The cured coating has an initial scratch resistance value such that after scratching greater than 40 percent of the initial 20° gloss is retained. The cured coating also has a retained scratch resistance value such that after scratching greater than 30 percent of the initial 20° gloss is retained. See col. 13, Table 1. The cured coating composition can be applied onto precoated automotive body parts (col. 9, line 65 to col. 10, line 5). The coating composition is applied as the clear topcoat over a basecoat in a multiplayer enamel (abstract).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 20, 24-32, and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al.

Maag et al. does not specifically disclose that the curing agent is added in an amount ranging from 0.5 to 65 weight percent based on the total weight of the resin components. However, in the absence of establishing criticality, one skilled in the art would have found it obvious to adjust the amount of curing agent used to within the claimed range. The motivation for doing so would have been to optimize the hardness and strength of the coated article. One skilled in the art would also have found it obvious to adjust the size and the amount of the particles to within the claimed ranges. The motivation for doing so would have been to optimize the optical properties and the clarity of the cured coating. Furthermore, one skilled in the art would have also found it obvious to apply the coating composition to the specific automotive body parts recited in claims 50-53. The motivation for doing so would have been to obtain improved scratch resistance and appearance in these body parts.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al. in view of Lutz et al. (U.S. Patent 5,077,083).

Maag et al. does not specifically disclose that the radiation curable component B) can include polysiloxane. However, Lutz et al. discloses UV radiation curable polysiloxane binders which can be used in coating composition. One skilled in the art would have found it obvious to incorporate such polysiloxanes in the system B) of Maag et al. The motivation for doing so would have been to improve the curing, hardness and adhesive properties of the coating disclosed in Maag et al. See Lutz et al., col. 2, lines 19-27.

14. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al. in view of Wilt et al. (U.S. Patent 5,939,491).

Maag et al. does not specifically disclose that the thermally curable system A) can comprise the polysiloxanes recited in the instant claims. However, Wilt et al. disloses the use of these polysiloxanes in curable compositions having excellent appearance, mar resistance, acid etch resistance, adhesion, pot life, tack time, and corrosion resistance (see abstract, col. 4 –col. 6). One skilled in the art would have found it obvious to incorporate the polysiloxanes disclosed by Wilt et al. in the system A) of the composition of Maag et al. The motivation for doing so would have been to improve the above-recited properties.

15. Claims 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al. in view of Kang et al. (U.S. Patent 6,245,833).

Maag et al. does not specifically disclose the use of the particles with the diameter or in the amounts recited in the instant claims. However, Kang et al. discloses a coating composition which comprises colloidal inorganic oxide particle surface treated with a fluoro/silane component (col. 4, lines 29-35). The particles can have a diameter preferably in the range of 2 to 75 nm (col. 10, lines 21-22). The inorganic oxide used can be colloidal silica (col. 10, lines 34-350. One skilled in the art would have found it obvious to use these particles in the composition of Maag et al. The motivation for doing so would have been to improve the stability, stain resistance, and hardness of the composition (see Kang et al., col. 2, lines 63-67).

16. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al. in view of Desobry (U.S. Patent 6,251,962).

Maag et al. does not specifically disclose the blend of photoinitiators recited in the instant claim. However, Desobry discloses photoinitiator mixtures in which 2-hydroxy-2methyl-1-phenyl-propanone can be mixed with (2,4,6-trimethylbenzoyl)-diphenyl phosphine oxide in a ratio such that each photoinitiator is present in an amount of 50% (see col. 9, lines 38-30 and 55-59). One skilled in the art would have found it obvious to use such a mixture in the composition of Maag et al. The motivation for doing so would have been to obtain cured composition with a specifically desired molecular weight range (see Desobry col. 1, lines 26-30).

17. Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maag et al. in view of Ohsawa et al. (U.S. Patent 6,207,235).

Maag et al. does not specifically disclose the use of the silyl groups recited in the instant claims. However, Ohsawa et al. discloses the use of such groups to block hydroxyl functional resins (see col. 2, lines 50-65). One skilled in the art would have found it obvious to use such silyl blocking groups in the composition of Maag et al. the motivation for doing so would have been to prevent crosslinking of the hydroxyl functional component until the coating is ready to be applied.

Information Disclosure Statement

18. Receipt of Information Disclosure Statements filed on December 29, 2000 and May 14, 2001 is acknowledged and have been made of record. Foreign language documents were only considered to the extent of what their English abstracts provided.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Paulraj whose telephone number is (703) 308-1036. The examiner can normally be reached on Monday-Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

cgp
September 26, 2002

Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700